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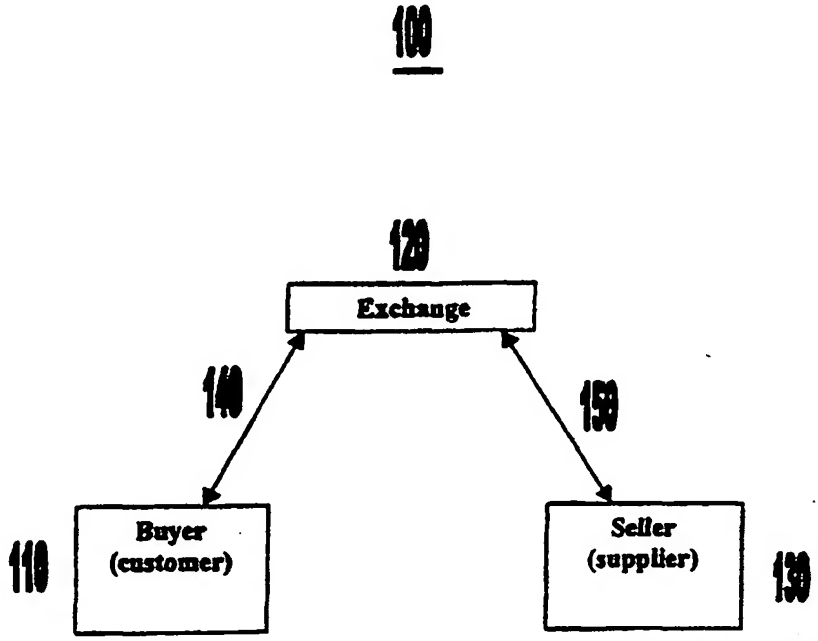
(54) Title: METHOD FOR DYNAMIC PROVISION OF CREDIT INFORMATION




(57) Abstract: A commercial exchange (100) dynamically provides credit information to facilitate commerce between customers (110) and suppliers (130) to the exchange (120). The method makes suppliers (130) aware of any individual customer's credit risk as compared to all other customers posting offers for consideration enabling suppliers (130) to factor this information into their decision-making prior to conducting commerce. The customer's credit risk is advantageously posted as index number or rating.

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METHOD FOR DYNAMIC PROVISION OF CREDIT INFORMATION

## BACKGROUND OF THE INVENTION

### Field of the Invention

The present invention generally relates to a method for providing credit information. Particularly, it relates to a dynamic credit-posting method for facilitating exchange-based commerce within an on-line environment.

### Background Art

An Exchange is generally a place where items are exchanged. Commonly, it is a dynamic transaction forum to which Buyers (customers) for goods, services, or other commoditized products are brought together with Sellers (suppliers) of similar commercial interest. An exchange can operate on any internal revenue model. An exchange facilitates commerce between Buyers and Sellers by providing a neutral, third party forum through which this commerce is conducted. Typically, the physical location of the exchange is not significant to its members. Buyers and Sellers interact with the exchange from remote locations and conduct transactions facilitated and authenticated by the exchange.

FIG. 1 shows a representative example of an exchanged-based commercial system 100 that uses an exchange 120 to facilitate commerce between a remotely located buyer (customer)110 and seller (supplier) 130 via connections 140, 150. It is noted that FIG. 1 merely shows a representative example and in practice there are a plurality of buyers and sellers interacting with the exchange 120. Additionally, the connections 140, 150 to the

exchange may comprise any wireless or wireline system medium appropriate for establishing connectivity between the exchange 120 and the buyer 110 and the seller 130. The list of system media may include, but is not limited to twisted pair, cable, optical fiber, cellular, DSL, PCS, land mobile-radio, satellite, or any other viable system connection path. The exchange 120 facilitates commerce between buyer 110 and seller 130 by interactively communicating with both parties in lieu of direct communication between the buyer 110 and seller 130. Typically, the exchange 120 posts a good or service being offered by the seller 130. The exchange 120 then receives an offer from the buyer 120 to purchase the good or service being offered by the seller 130 and forwards this offer to the seller. As negotiations continue between the buyer 110 and seller 130, the exchange 120 acts as a neutral center to establish an interactive communication link between the buyer and seller to facilitate completion of the commercial transaction or help setup future transactions.

The commoditized products or services are not necessarily physically trafficked through the exchange, but rather the ownership, performance, or other intangible aspects are traded and tracked via the exchange and reported to both Buyers and Sellers in a secure and reliable manner. The classic exchange model is evident in such examples as the New York Stock Exchange, the Chicago Board of Trade, NASDAQ, etc. These are examples of financial exchange centers which typically help facilitate commerce in securities or commodities.

While exchanges have existed for hundreds of years, they have been limited by practical constraints such as location, participation criteria, cost of membership, etc. In practice, most exchanges have been able to manage financial exposures (such as default

payments or untended debt) by limiting participation and rigorously enforcing members' Terms & Conditions. As the Internet and other online media allow more people to conduct commerce as both Buyers and Sellers, the exchange model will become more commonplace.

The exchange-based commercial system wherein the buyer and seller are remotely located presents particular problems regarding creditworthiness of the buyer. Most traditional exchanges facilitate one-to-one trades wherein the exchange can easily track the payment/revenue path from one Buyer to one Seller. If the single Buyer is late in paying the exchange, this liability can easily be assigned to the single Seller in an appropriate manner as determined by the rules of the exchange.

Conversely, liability for a potential credit risk posed by the Buyer is not so easily assignable in the on-line exchange environment since on-line (e.g., internet-based) exchanges allow for single-to-multiple or multiple-to-multiple trades. In a typical example, numerous Internet advertisers can purchase advertising space from numerous Internet publishers at the same time. In this case, the exchange will be responsible for collecting the incremental revenue due from each advertiser (Buyer) and disburse the appropriate amount owed each publisher (Seller). If one Buyer doesn't pay, this loss will be spread across all those Sellers who accepted this offer. In such an event, the operator of the exchange has three choices:

- The Exchange may demand up-front fees or escrow payments from the Buyer (thus favoring the Seller and limiting the pool of Buyers to only those who agree to pay an up-front deposit).

- The Exchange can pay the Seller, absorb this loss against its own revenues, and/or initiate collection process against the Buyer. The exchange then must function as a loan bank and collection agent, which may not be in its best interest.
- The Exchange may indemnify itself completely against default payments and only pay the Sellers as money is received from the Buyers (thus favoring the Buyer and limiting the pool of Sellers to those who agree to accept this non-payment risk.)

Additionally, the internet has recently seen the advent of on-line auction websites (exchanges) wherein Buyers (customers) to the site post bids on a wide variety of products offered by several Sellers (suppliers). Although payment for these auction purchases are typically directly transferred between buyer and seller, the auction website does bear the risk of bad publicity if a frequent number of buyers default on payment to the seller or other similar circumstances arise preventing the commercial auction transaction from being completed. Therefore, the on-line auction practice further demonstrates the need for on-line exchanges to protect themselves from liability or from tarnishment of business image due to buyer non-payment.

In view of the foregoing problems, there is a need to provide dynamic credit information regarding a customer (buyer) to an on-line exchange so that suppliers (sellers) to the exchange may make an informed decision on whether to engage in commerce with the customer. This credit information needs to convey an accurate level of the creditworthiness of customers to the exchange.

## OBJECT AND SUMMARY OF THE INVENTION

The present invention overcomes the previously mentioned disadvantages by providing a method wherein any automated commercial exchange can provide up-to-date information to individual Sellers (suppliers) using the exchange that indicates the creditworthiness of individual Buyers (customers) also using the exchange. The method makes Sellers aware of any individual Buyer's credit risk as compared to all other Buyers posting offers for consideration enabling Sellers to factor this information into their decision-making prior to conducting commerce. The Buyer's credit risk is advantageously posted as index number or rating.

The principal object of the present invention is to provide a dynamic credit-posting mechanism to facilitate exchanged-based commerce between remotely located Buyers and Sellers.

It is another object to reduce the risk on non-payment associated with on-line commercial transactions facilitated via an exchange.

It is a further object to enable Buyers and Sellers to better manage marketing and negotiation strategy regarding an exchanged-based on-line commercial transaction.

## BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 – shows a representative exchanged-based commercial system

Fig. 2 - shows method performed by exchange in accordance with the present invention

## DETAILED DESCRIPTION OF THE INVENTION

The present invention provides a live, dynamic credit-posting mechanism for exchange-based commerce. The credit posting system preferably operates using an on-line environment (e.g., internet). Therefore, it is noted that particular non-critical aspects of the internet are not described in great detail as they are as they are not critical to the present invention and these aspects are well-known in the relevant field of invention. Also, it is noted that those skilled in the art will appreciate that the present invention may be equally applied to any exchanged-based commercial system that comprises at least one remotely located customer and supplier to an exchange.

FIG. 1 shows a representative commercial exchange system 100 as previously described. Exchange 120 facilitates commerce between Buyer (customer) 110 and Seller (supplier) 130 via connections 140, 150. Advantageously, the commercial exchange system 100 comprises an on-line system wherein exchange 120 is a website connected to customer 110 and supplier 130 via a common interconnected communication network (e.g., internet). To help facilitate commerce between customer 110 and supplier 130, exchange 120 generates credit information regarding each customer to the exchange 120 prior to customer-supplier transactions being completed. This credit information is provided to the supplier 130 as a Live Credit Index ("LCI") indicating the credit risk of the customer.

FIG. 2 shows method 200 performed by representative exchange 120 in accordance with the present invention. At step 210, the exchange 120 receives an offer from a customer (buyer) to the exchange to be reviewed by all interested suppliers (sellers) in a manner specific to that exchange. The manner of review may include, but is not limited to direct posting (publication) on the exchange's website or a supplier's website, webcasting to a supplier's computer, e-mail notification to a supplier's computer, or any other appropriate manner. Advantageously, the manner of review may be determined through a consolidated agreement between the major entities involved, customer, exchange, and supplier. Also, each supplier can review all the customers' offers and, depending on the mechanics of the exchange, the supplier may post its' own offers to be reviewed by all interested customers.

At step 220, the Exchange 120 then calculates each customer's credit information (LCI) by evaluating that customer's payment history within the exchange. The index is derived by calculating that customer's payment performance across data points significant to the exchange. These data points include, but are not limited to Account Balance (at current state), Amount Owed (at current state), Credit Limit (fixed or adjustable), Debit Trend (the rate at which debits accumulate), Payment Trend (the rate at which credits are collected), Exchange History (depth and duration of involvement within the exchange), Rolling Live Credit Index (variations of the empirical LCI data), Payment History, Available Credit, Adherence, and any other appropriate statistical and financial functions deemed important by either customer or supplier to the exchange. This index formula will be applied consistently across all members (customers) of the exchange.

At step 230, the exchange 120 provides the LCI along with the customer offer to interested suppliers in a manner consistent with the manner of review previously described. At step 240, the exchange 120 updates the LCI if the transaction is completed between customer and supplier since a completed transaction will result in a change of the customer's payment performance. This process will be repeated for every new offer received from a customer.

The LCI calculation and provision can be made automatically, periodically, or as requested by supplier or customer. Advantageously, the results are posted in a manner allowing exchange suppliers to consider each customer's LCI when determining whether to accept that customer's offer as posted. The present invention enables suppliers to compare the LCI rating of each offer with respect to the other incentive components (e.g., prices, commissions, etc.) of the offer. Suppliers can also compare the LCI ratings across numerous customers posting similar offers.

A particular practical example in accordance the present invention and consistent with the commercial exchange system shown in FIG. 1 is now herein described. In this example, an online exchange brings together websites offering banner-advertisement space with companies selling products via the Internet. A Widget Manufacturer company (buyer/customer) is using the exchange to BUY audience impressions from numerous Websites (seller/supplier), which SELL them.

In this example, three hundred websites have accepted the Widget Maker's offer for compensation and are running its' banner advertisements on their sites. As people visit these websites, they see these banner ads and some click through to the Widget Maker's home web site. These are actions for which the Widget Maker owes compensation as

described by its' original offer. The exchange tracks the amount of money the company owes the various members (suppliers) of the exchange and reports this total back to the company as an aggregate figure. This figure continues to grow as ongoing web traffic triggers more performance results and thus more debits. As long as the Widget Maker's ads continue to run, the company is accruing debits to the exchange.

In this example, the Widget Maker company (customer) has been using the exchange for several months. The company has kept its' accounts current and carries a $100 positive balance to the exchange as of this exact moment (time cycle = 0). For purposes of this example, the following basic live credit index ("LCI") calculation will be employed:

LCI = AMOUNT IN ACCOUNT/ TOTAL AMOUNT DUE THE EXCHANGE

[wherein the LCI is equivalent to the amount of cash held in the account divided by the amount owed the exchange at that specific moment. It is noted that the LCI (actual) is equivalent to (1 + calculated LCI) for positive account balances and LCI (actual) is equivalent to (1 – absolute value of calculated LCI) for negative account balances.]

As each time-cycle progresses, banner ads are being served, click-throughs recorded, and the Widget Maker's positive balance erodes to reflect these debits.

FIG. 3 shows this progression. At the start of this model, the Widget maker's (customer's) account shows a positive balance of $100. After the first time cycle, $15 worth of performance debits have accrued but its' LCI still shows a rating of 1.000

indicating the company has a positive cash balance. It is noted, for this model, that although the actually calculated LCI is greater than 1.000 for an account balance of $85 and an amount due of $15 [LCI (actual) = 6.667], the exchange will only post a positive balance as 1.000 thereby keeping the size of the balance a secret to the general population of the exchange. Therefore, the exchange can guarantee payments to all suppliers carrying its' offer(s) due to the positive balance.

After five time-cycles, the Widget Maker's debits have increased to $82 and his positive account balance has dropped to $18. The payments to the suppliers are still guaranteed at this point but the customer (Widget Maker) must decide whether to "refill" its' account balance to anticipate future debits or allow its' LCI to dip below 1.000. If the customer does make a timely payment, it will continue its' 1.000 LCI rating and all pending offers will reflect this rating.

Alternatively, if the customer decides to postpone its' payment and its' LCI drops below 1.000, it is possible that some percentage of the suppliers' websites will stop running its' ads in favor of other offers that guarantee payment. Other websites may continue running the ads but only if compensation incentives (sales commissions, CPM, etc.) are increased to compensate for this risk. Across the exchange, the LCI will factor in with other offer parameters to establish market-based pricing for a wide variety of goods and services.

In typical practice, the LCI will enable both supplier and customer to manage marketing and negotiation strategy regarding transactions through the exchange. Customers who maintain a positive balance with the exchange can reduce their incentives (e.g. prices, commissions) while customers who delay payments will be forced to

compete by offering higher incentives up front. Also, each supplier can determine the varying weights it will apply in evaluating prices, commissions and other incentives of the customer offer based upon empirical payment-history data specific to each customer. In this manner, the commercial exchange using the LCI will start resembling the high-yield bond markets (financial exchange) that require higher interest payments for less secure bonds.

In practice, the present invention may enable numerous strategies that can be employed by either exchange, customer, or supplier in order to maximize benefit of using an exchange-based commercial system. These strategies include the following:

- customer can directly influence his LCI buy making (or delaying) payments into the exchange in a timely manner. In actual practice, this means an Exchange can encourage Buyers to maintain deposit or escrow accounts without actually forcing them to pay up front in order to use the exchange.
- A supplier can now include the LCI in context with other incentives and manage risk across a wide variety of customers and their offers.
- Exchanges can include LCI ratings in their automated search and threshold functions such as: "Accept this offer until the LCI drops below .7500" or "Only show me guaranteed payment offers [e.g. LCI = 1.000 ]..."
- Each exchange can shape the LCI by integrating other financial indices such as credit limit, term variables, etc. This allows each Exchange to influence the internal perception of each Buyer and still apply a clear and equitable rating across the entire exchange. For example, on one exchange, a .500 rating is a

good rating and indicates that Buyer generally pays in 30 days. On another exchange, a 500 rating may indicate a considerable level of risk. While, on a third, .500 may be a stellar rating (but still not guaranteed!).

- In the example depicted by FIG. 3, if the account total drops to zero, the LCI will also be zero. In actual practice, the Exchange may elect to uniformly "slope" the index by triggering a minimum balance - in effect, a spontaneous loan - to a Buyer's account. This is analogous to the account's credit limit and also represents the exchange's risk tolerance for each account. This baseline is, of course, at the discretion of the exchange.
- Because the LCI is based upon accurate credit history data within the exchange, first-time customers may be assigned a "conditional" rating by the exchange which identifies them as new members to all potential suppliers until the necessary payment-history benchmarks are established.

The present invention enables each customer to determine the advantages and disadvantages of maintaining a positive balance, a negative balance, and schedule of payments to the exchange. The customer can use specific and measurable marketplace forces to factor into this decision.

Also, because a positive-balance LCI rating indicates "money in the bank", the Exchange may elect to guarantee full payments to all suppliers who accept positive-balance offers and not guarantee payments on less-than-fully secured offers. This allows all three constituents, Buyer, Seller, and Exchange to function within risk parameters comfortable to each entity.

The benefits to the foregoing method include the following:

- A Live Credit Index facilitates informed trades. Sellers will be informed, in advance, of each Buyer's credit-worthiness as compared to all other Buyers on the exchange. Buyers and Sellers can modify their pricing, commissions, and other transaction incentives to compensate for higher or lower LCI ratings on the part of prospective Buyers.
- Buyers and Sellers can adjust their payment and term policies to better compete in the marketplace while still controlling their internal financial strategies to maximum benefit.
- Use of an LCI Rating can indemnify the Exchange itself against non-payments or late payments on the part of the Buyers who have received goods or performance from the Sellers but not made payments into the exchange for appropriate disbursement. This allows participants of the exchange to operate at risk levels that are clearly defined and acknowledged in advance.

Also, the LCI is advantageously published as a standardized rating accompanying the posted offer by each customer helping to indicate the payment history and/or current account balance of each customer. Publication of the LCI in connection with each customer offer enables every supplier to evaluate the customer's credit risk in combination with other parameters of the offer (e.g., prices, commissions, advertising, etc.). The exchange can indemnify itself against default payments without restricting participation on the part of either customer or supplier.

Although the invention is described herein using an online exchange example, it will be appreciated by those skilled in the art that modifications and changes may be made without departing from the spirit and scope of the present invention. As such, the method described herein may be equally applied to any exchanged-based commercial system comprising at least one remotely located customer and supplier to said exchange.

The Invention Claimed Is:

1. A method for providing credit information on customers of exchange-based commerce, comprising:

receiving an offer from a customer to an exchange to engage in commerce with at least one supplier to said exchange;

calculating credit information for the customer based on payment history of the customer within said exchange, wherein said payment history including a current account balance for said customer;

providing credit information to said supplier to said exchange; and

updating said credit information based on account balance remaining following the engagement of commerce between said customer and supplier to said exchange.

FIG. 1

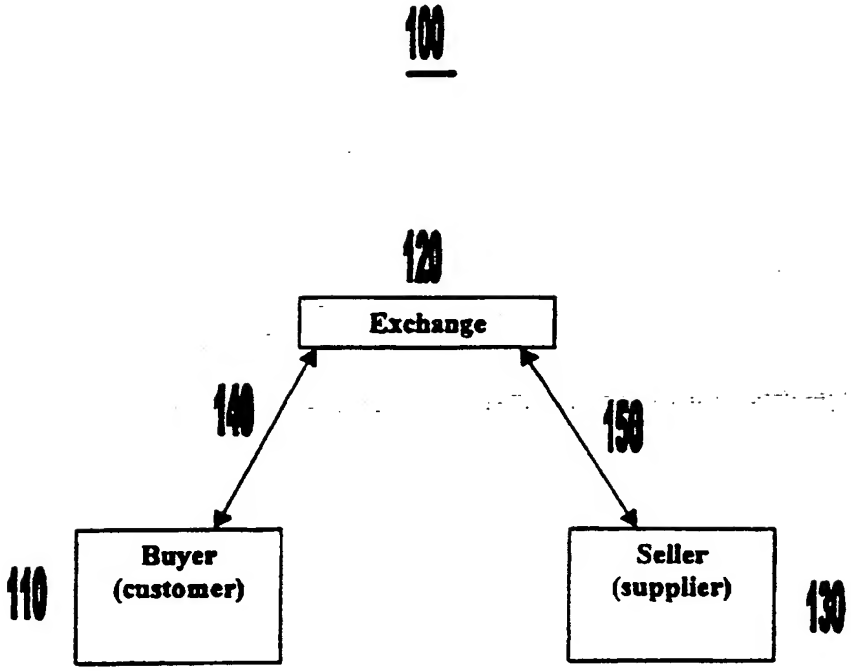
100
120
Exchange
140
150
110
Buyer
(customer)
Seller
(supplier)
130

FIG. 2

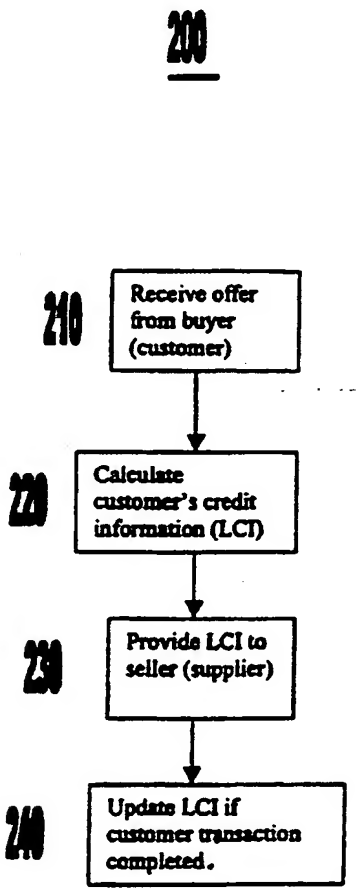
200
210
Receive offer from buyer (customer)
220
Calculate customer's credit information (LCI)
230
Provide LCI to seller (supplier)
240
Update LCI if customer transaction completed.

FIG. 3

| Time Cycle | Amt. Due | Acct.Balance | LCI (Actual) | LCI (Posted) |
|---|---|---|---|---|
| Start | 0 | 100 | | |
| 1 | 15 | 85 | 6.667 | 1.0000 |
| 2 | 35 | 65 | 2.857 | 1.0000 |
| 3 | 42 | 58 | 2.381 | 1.0000 |
| 4 | 67 | 33 | 1.493 | 1.0000 |
| 5 | 82 | 18 | 1.220 | 1.0000 |
| 6 | 95 | 5 | 1.053 | 1.0000 |
| 7 | 100 | 0 | 1.000 | 1.0000 |
| 8 | 110 | -10 | 0.909 | 0.9091 |
| 9 | 125 | -25 | 0.800 | 0.8000 |
| 10 | 175 | -75 | 0.571 | 0.5714 |
| 11 | 195 | -95 | 0.513 | 0.5128 |
| 12 | 200 | -100 | 0.500 | 0.5000 |
| 13 | 225 | -125 | 0.444 | 0.4444 |
| 14 | 247 | -147 | 0.405 | 0.4049 |
| 15 | 281 | -181 | 0.356 | 0.3559 |
| 16 | 300 | -200 | 0.333 | 0.3333 |
| 17 | 532 | -432 | 0.188 | 0.1880 |
| 18 | 684 | -584 | 0.146 | 0.1462 |
| 19 | 750 | -650 | 0.133 | 0.1333 |
| 20 | 1000 | -900 | 0.100 | 0.1000 |
| 21 | 1126 | -1026 | 0.089 | 0.0888 |

# INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/30028

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) :G06F 17/60
US CL :705/38, 35, 37, 39, 40, 42, 26; 235/379, 380
According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/38, 35, 37, 39, 40, 42, 26; 235/379, 380

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST, DIALOG

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---|---|---|
| X | US 5,732,400 A (MANDLER et al) 24 March 1998, col. 5, line 53 thru col. 17, line 67. | 1 |
| X | US 5,774,883 A (ANDERSEN et al) 30 June 1998, col. 5, line 1 thru col. 28, line 51. | 1 |
| A | US 5,274,547 A (ZOFFEL et al) 28 December 1993, entire document. | 1 |
| A | US 5,615,408 A (JOHNSON et al) 25 March 1997, entire document. | 1 |
| A | US 5,970,478 A (WALKER et al) 19 October 1999, entire document. | 1 |

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

| | | | |
|---|---|---|---|
| * | Special categories of cited documents: | "T" | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
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| "L" | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "&" | document member of the same patent family |
| "O" | document referring to an oral disclosure, use, exhibition or other means | | |
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| Date of the actual completion of the international search | Date of mailing of the international search report |
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